Montana Fish, Wildlife & Parks

1400 South 19th Ave
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July 16, 2014

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Ladies and Gentlemen:

The enclosed draft Environmental Assessment (EA) has been prepared for the proposed *Selective, Mechanical Removal of Nonnative Fishes in the Shields River Watershed* project. The project proposes that FWP conduct removal of nonnative rainbow trout from waters upstream of Chadbourne Diversion and removal of nonnative brook trout and brown trout in waters upstream of a proposed barrier upstream of Crandall Creek. Both of these species pose significant threats to the conservation of Yellowstone Cutthroat trout in the Shields River Watershed. This draft EA is available for review on FWP's internet site: http://www.fwp.mt.gov

Montana Fish, Wildlife & Parks invites you to comment on the draft EA. If requested, FWP will schedule and conduct a public meeting on this proposed project. Public comment will be accepted until 5:00 p.m. on August 15, 2014. Comments should be sent to the following:

Shields River EA
Montana Fish, Wildlife & Parks
1354 HWY 10 West
Livingston, MT 59047
Or emailed to: sopitz@mt.gov

Sincerely,

Pat Flowers
Region Three Supervisor

Selective, Mechanical Removal of Nonnative Fishes in the Shield River Watershed

Draft Environmental Assessment

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July 16, 2014

Montana Fish, Wildlife & Parks

Region 3 Office

1400 South 19th Street

Bozeman, Montana 59718-5496

Montana Fish, Wildlife & Parks

Executive Summary

The Shields River watershed supports populations of nonhybridized and slightly hybridized Yellowstone cutthroat trout throughout most of its waters. This proposed action builds on a long history of actions aimed at securing, enhancing, and conserving this native trout. Currently, the most substantial threats to Yellowstone cutthroat trout within the watershed are hybridization with rainbow trout and competition with brook trout. Brown trout are also present and the extent of their role in declines of Yellowstone cutthroat trout is unknown. Experience in other headwater streams suggests they can outcompete or consume Yellowstone cutthroat trout, or coexist for decades.

This document is an environmental assessment (EA) of the potential consequences of two alternatives. EAs are a requirement of the Montana Environmental Policy Act (MEPA), which requires state agencies to consider the environmental, social, cultural, and economic effects of proposed actions. This EA considers two alternatives:

1. Mechanically remove rainbow trout and rainbow trout x Yellowstone cutthroat hybrid trout whenever encountered upstream of Chadbourne diversion and mechanical removal of brook trout and brown trout from the headwaters of the Shields River, upstream of a proposed barrier.
2. No action.

Alternative 1 is the preferred alternative. Evaluation of the potential effects of this alternative finds it would have short-term, minor effects on wildlife, recreation, and vegetation over the 10-year proposed project period and would ultimately be highly beneficial to Yellowstone cutthroat trout in the watershed and the long-term conservation of the species within Montana.

MEPA also requires public involvement and opportunity for the public to comment on projects undertaken by state agencies. A 30-day public comment period will extend from July 16, 2014 to August 15, 2014. If requested by the public, a public meeting will be held to discuss the proposal and hear comment. If a public meeting is held, FWP will announce the meeting date, time and location through local media outlets and social media. Interested parties should send comments to:

Scott Opitz
Montana Fish, Wildlife & Parks
1354 Highway 10 West
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List of Abbreviations

CD	Conservation District
CGNF	Custer Gallatin National Forest
EA	Environmental Assessment
FWP	Montana Fish, Wildlife & Parks
FS	Forest Service
MCA	Montana Code Annotated
MCTSC	Montana Cutthroat Trout Steering Committee
MEPA	Montana Environmental Policy Act
MNHP	Montana Natural Heritage Program
WCS	Wildlife Conservation Society

1.0 PROPOSED ACTION DESCRIPTION

The proposed action entails mechanically removing nonnative rainbow trout *Oncorhynchus mykiss*, hybridized rainbow trout x Yellowstone cutthroat trout hybrids, brown trout *Salmo trutta*, and brook trout *Salvelinus fontinalis* from select areas in the Shields River watershed by Montana Fish, Wildlife & Parks (FWP) staff. Mechanical removal includes electrofishing or other nonchemical means to capture and remove fish from streams or lakes. This proposed action is consistent with conservation planning to secure and protect Yellowstone cutthroat trout *Oncorhynchus clarkii bouvieri* in the Shields River watershed and cutthroat conservation planning in general (MCTSC 2007; Endicott et al. 2012; FWP 2013). Rainbow trout and hybrids would be removed from the main stem and tributaries in the watershed upstream of the Chadbourne diversion (Figure 1-1) whenever they are captured. In addition, brook trout and brown trout would be removed from the upper project area, upstream of a fish barrier proposed to be constructed by the Forest Service (FS) and located within the Custer Gallatin National Forest (CGNF) boundary (Figure 1-1). Removals of nonnative trout species would occur during regular monitoring efforts and specific removal events over a 10-year period.

FWP, the Custer Gallatin National Forest (CGNF) and the Wildlife Conservation Society (WCS) are the primary collaborators on this project. Moreover, other entities may assist in mechanical fish removals during the project's lifetime.

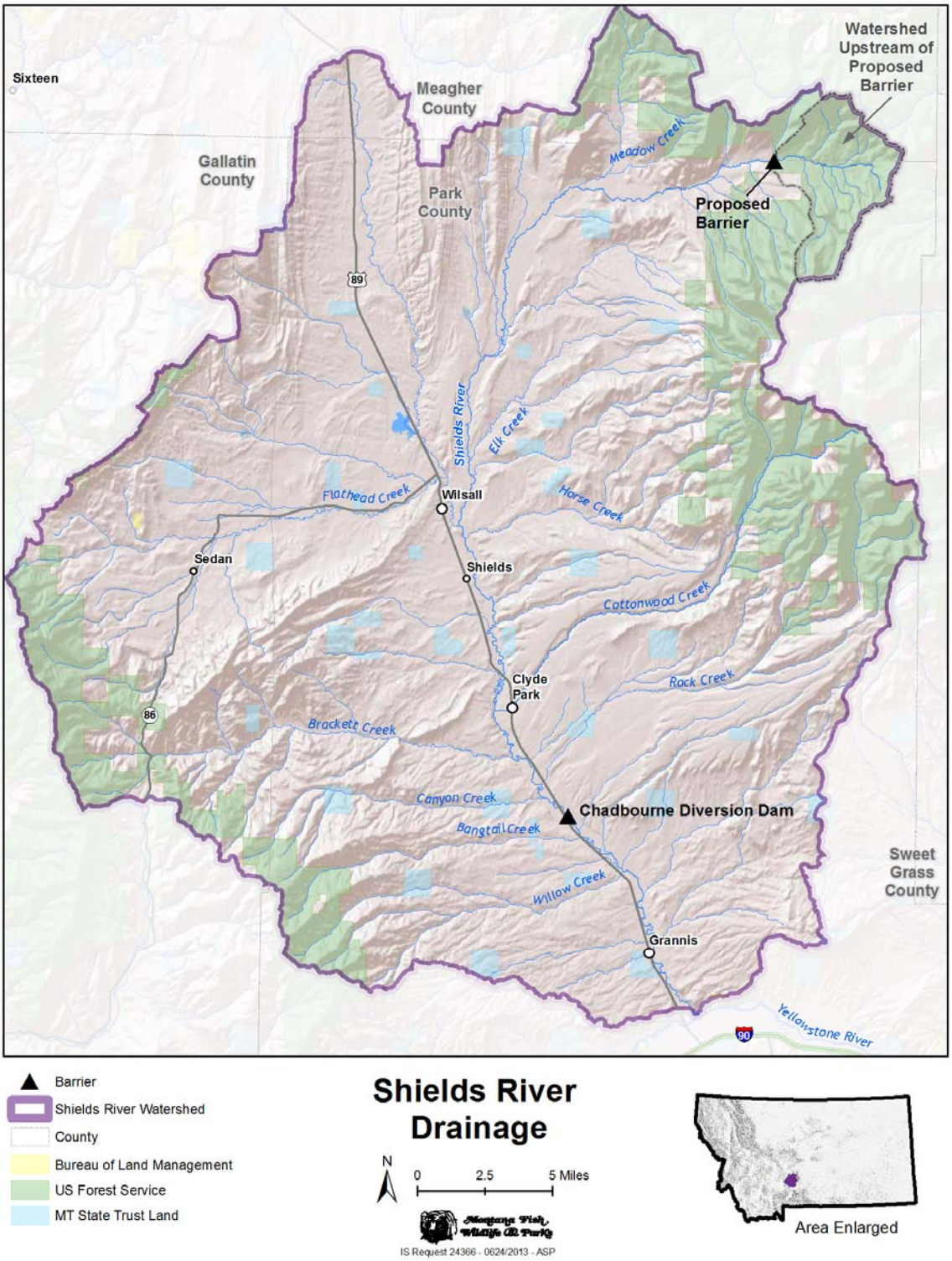

Figure 1-1. Map of the Shields River watershed showing existing (Chadbourne) and proposed fish barriers.

1.1 Objectives of Proposed Action

The objectives of the proposed action are to reduce and eliminate threats to Yellowstone cutthroat trout posed by nonnative rainbow, brook, and brown trout that were introduced into Montana beginning in the late 1800s. Rainbow trout are a primary cause of decline of Yellowstone cutthroat trout (Kruse et al. 2000) as they readily interbreed, resulting in formation of hybrid swarms (Leary et al. 1989). Moreover, introduction of rainbow trout genes reduces the fitness of the resulting offspring resulting in declines of newly hybridized populations (Muhlfeld et al. 2009). Rainbow trout have a relatively limited distribution (Figure 1-2) in the Shields River watershed and a collaborative effort to repair and retrofit the Chadbourne diversion in 2013 has eliminated a source of low-level invasion from downstream. Nonetheless, the remaining rainbow trout upstream of the Chadbourne diversion continue to threaten the genetic integrity of the nonhybridized Yellowstone cutthroat trout in the watershed.

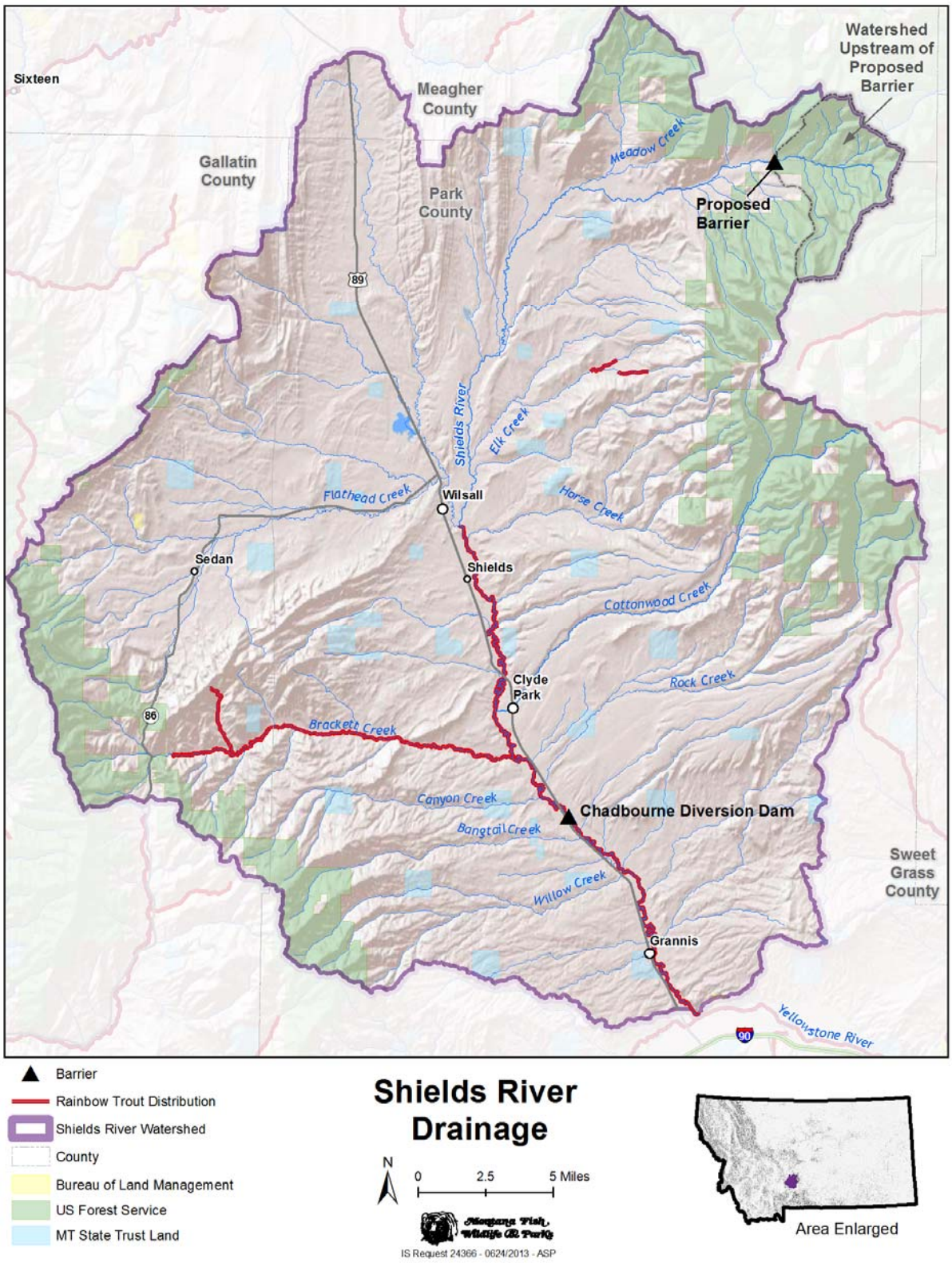

Figure 1-2: Distribution of rainbow trout in the Shields River watershed (FWP database, 2013).

Brook trout are a highly invasive species and pose a significant threat to native cutthroat trout, especially in headwater streams (Dunham et al. 1997; Petersen et al. 2008; Shepard 2010). Brook trout have wide distribution within the Shields River watershed, but are most abundant in tributaries (Figure 1-3). Monitoring results in the upper Shields River watershed underscore the invasive and competitive nature of brook trout. Comparisons of species abundances in the Smith Creek watershed (Endicott et al. 2012), a tributary to the upper Shields River, found that from the 1970s through early 2000s, Yellowstone cutthroat trout went from being abundant to rare or potentially absent in some tributaries following invasion of brook trout. This reversal in species abundance took only 30 years. Investigations in 2009 through 2013 have documented continued invasion of brook trout into the headwaters of the Shields River upstream of Smith Creek and a similar scenario of Yellowstone cutthroat trout declines following invasion is likely.

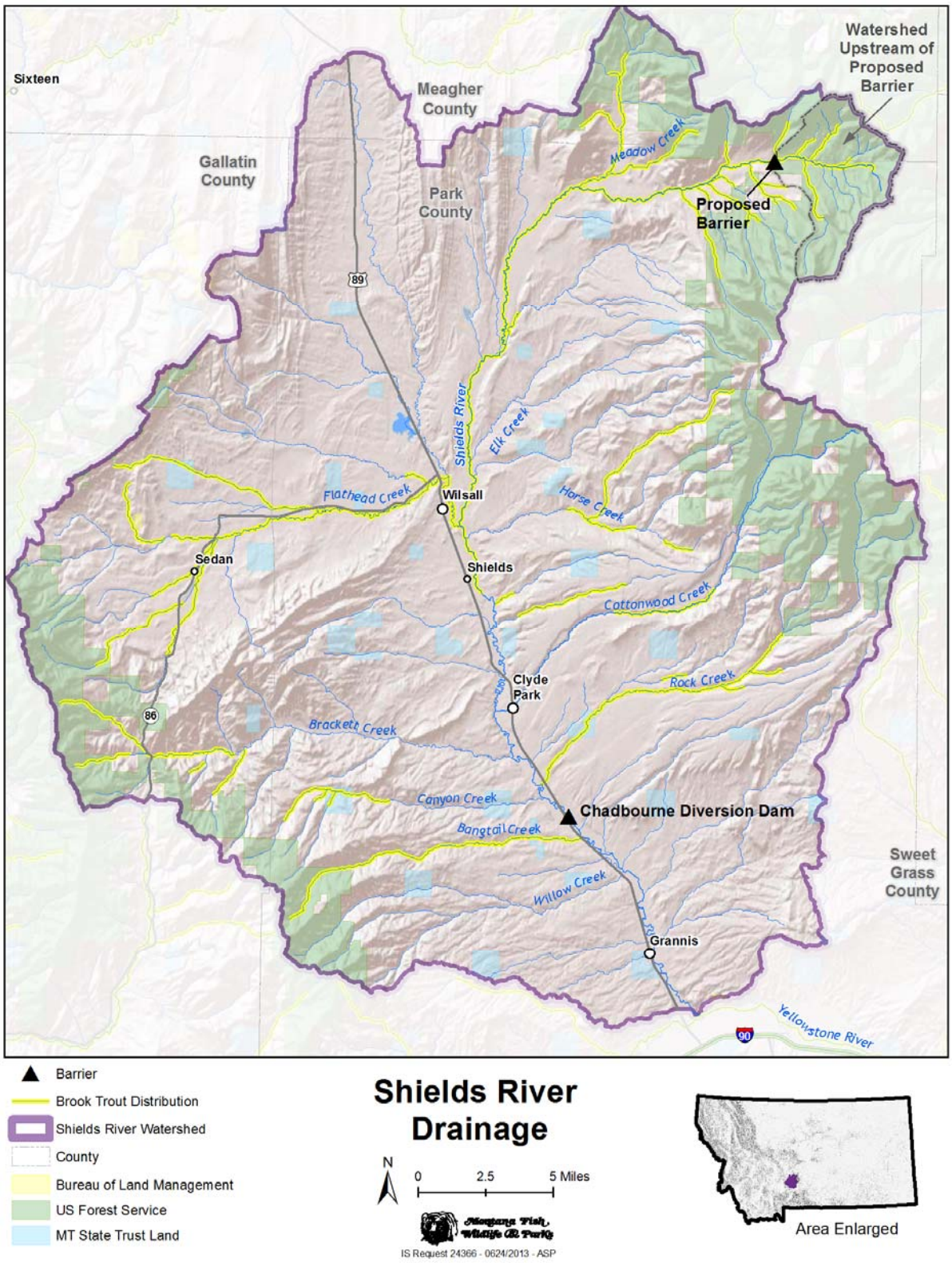

Figure 1-3: Distribution of brook trout in the Shields River watershed (FWP database, January 2012).

Brown trout are also present in the Shields River watershed and have a wide distribution throughout the Shields River and the lower portions of most of its tributaries (Figure 1-4). Brown trout may pose a threat through competition and perhaps predation, although the degree to which they threaten Yellowstone cutthroat trout in the Shields River watershed is uncertain. Nonetheless, brown trout are less of a risk to Yellowstone cutthroat trout than rainbow trout and brook trout, although brown trout tend to displace native cutthroat in lower elevation streams (Behnke 1992; de la Hoz and Budy 2005; Wood and Budy 2009). This tendency appears to hold true for brown trout and Yellowstone cutthroat trout. Their abundance in the main stem of the Shields River and lower reaches of several tributaries may be among the reasons Yellowstone cutthroat trout are relatively rare in these areas. Nevertheless, other factors such as habitat condition, water temperature, and summer flow regime may be contributing factors.

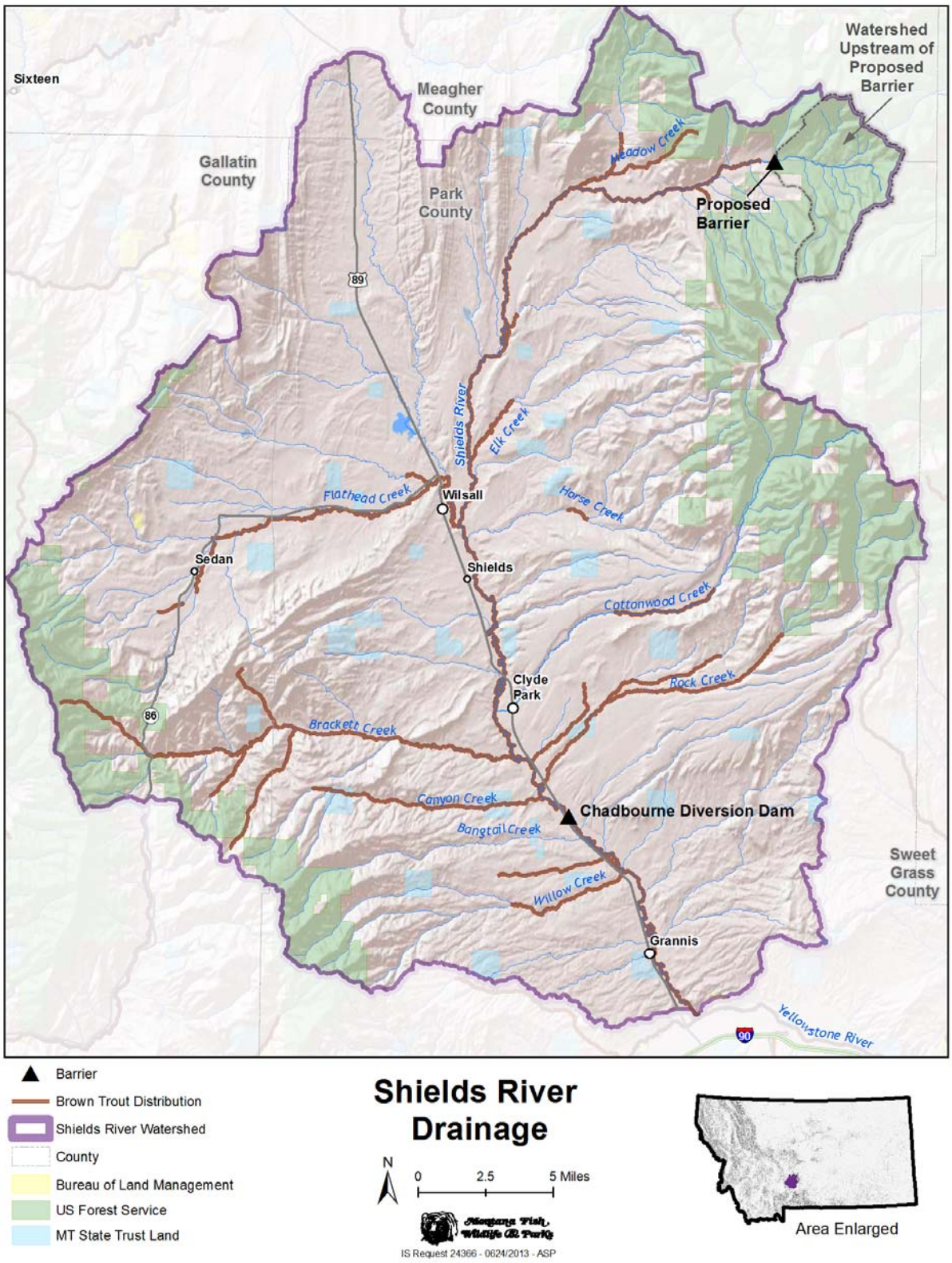

Figure 1-4: Distribution of brown trout in the Shields River watershed (FWP database, January 2012).

Although brown trout appear to have a competitive edge in lower elevation reaches, Yellowstone cutthroat trout are able to persist with brown trout in some higher elevation streams. For example, Yellowstone cutthroat trout coexisted with brown trout in Lower Deer Creek, a tributary of the Yellowstone River downstream of Big Timber for decades, although brown trout were the more abundant species and appeared to be increasing relative to Yellowstone cutthroat trout in the years prior to a recent conservation project (MFISH database). In contrast, fisheries investigations in East Fork Duck Creek, a stream draining the south end of the Crazy Mountains found a marked reversal in Yellowstone cutthroat trout abundance compared to brown trout between the early 1980s and 2007. In the 1980s, Yellowstone cutthroat trout outnumbered brown trout by up to sevenfold (White 1984; R.J. White, Trout Habitat Specialists, personal communication). In 2007, brown trout were three times as abundant as Yellowstone cutthroat trout, suggesting the possibility for future extirpation of Yellowstone cutthroat trout. Recent electrofishing surveys indicate brown trout are increasing their range into the upper Shields River watershed, which is a cause for concern and requires further study (B.B. Shepard, Wildlife Conservation Society, personal communication).

Continued invasion of brown trout into headwater strongholds for Yellowstone cutthroat trout is possible, but the extent of the threat remains unknown. Timing of spawning and associated physical factors may limit, but not prevent, the invasion of brown trout into higher elevation reaches (Wood and Budy 2009). Current and future research into species invasions in the high elevation streams may shed light on the potential for brown trout to invade headwaters. Moreover, conservation efforts such as fish removal and barrier construction will help to protect the headwaters populations of Yellowstone cutthroat trout in the Shields River watershed from brook trout and brown trout.

Considerable uncertainty exists regarding interactions between brown trout and Yellowstone cutthroat trout and the effect of introduced brown trout on Yellowstone cutthroat trout. Potential factors include biotic and physical environmental conditions. Removing brown trout from the Shields River upstream of the proposed barrier would allow comparisons between areas with and without brown trout. The results would add to our understanding of the mechanisms shaping community changes and will inform adaptive management of brown trout in the basin.

The goal of conservation planning in the Shields River watershed is to continue to secure this stronghold for Yellowstone cutthroat trout, while determining the level of threat that brown trout pose to Yellowstone cutthroat trout. If needed, FWP could reduce numbers and or prevent invasion of brown trout where Yellowstone cutthroat trout are impacted (FWP 2013). Brook trout and rainbow trout are the primary cause of extirpation from the majority of the historic range of Yellowstone cutthroat trout and therefore are incompatible with cutthroat trout management. Suppressing rainbow trout throughout the watershed upstream of the Chadbourne diversion would lessen the risk of hybridization. Eradicating brook trout from the project area

upstream from the proposed barrier would provide a secure refuge for the existing Yellowstone cutthroat trout in northern headwaters, an area that has the greatest likelihood of being resistant to climate warming (Al-Chokhachy et al. 2013).

1.2 Location

The Shields River watershed (Figure 1-1) lies to the northeast of Livingston, Montana. Most of the watershed is within Park County, although it extends into Gallatin and Meagher counties. This EA covers two project areas. The rainbow trout and hybrid trout removal project area would occur basin-wide upstream from the Chadbourne Diversion. The upper project area encompasses streams upstream of a proposed FS fish barrier (Figure 1-1).

1.3 Relevant Plans

The proposed actions are part of an overall conservation strategy for Yellowstone cutthroat trout in the Shields River watershed. Programmatic plans include an agreement among agency, agricultural, timber, and conservation stakeholders to place conservation of cutthroat trout as a priority in managing their operations (MCTSC 2007). These actions are also consistent with the *Yellowstone Cutthroat Trout Conservation Strategy for the Shields River Watershed above Chadbourne Diversion* (Endicott et al. 2012), which calls for securing, improving and conserving the genetic status, distribution, and abundance of Yellowstone cutthroat trout in the project area. The *Statewide Fisheries Management Plan* (FWP 2013) stated management direction for the area addressed in this EA is to remove rainbow trout where possible, reduce numbers of brown trout as needed to protect Yellowstone cutthroat trout, and remove brook trout where possible to protect and secure Yellowstone cutthroat trout.

1.4 Authority

Authority to conduct the proposed actions comes from various Montana Administrative Codes:

- MCA 87-1-702 authorizes FWP “to perform such acts as may be necessary to the establishment and conduct of fish restoration and management projects”.
- manage wildlife, fish, game and nongame animals in a manner that prevents the need for listing under 87-5-107 or under the federal Endangered Species Act, 16 U.S.C. 1531, et seq;
- manage listed species, sensitive species, or a species that is a potential candidate for listing under 87-5-107 or under the federal Endangered Species Act, 16 U.S.C. 1531, et seq., in a manner that assists in the maintenance or recovery of those species. Section 87-1-201(9)(a) M.C.A.

1.5 Overlapping Jurisdictions

As the brook trout removal would occur within the CGNF, this project is consistent with their regulatory requirements and management priorities for Yellowstone cutthroat trout. Other

stakeholders include the private landowners in the watershed, the Shields Valley Watershed Group, and the Park Conservation District (CD). These individuals and groups will be periodically informed of the status of this project through direct communication and press releases. If Yellowstone cutthroat trout are listed under the Endangered Species Act, the U.S. Fish and Wildlife Service would have overlapping authority with FWP. Finally, the Multi-State Yellowstone Cutthroat Trout Conservation Group, which includes Montana, is working to conserve and restore Yellowstone cutthroat trout where possible throughout their historic range.

2.0 Alternatives

2.1 Alternative A: Proposed Action

The proposed action calls for selective, mechanical removal of nonnative species of trout from specific areas within the Shields River watershed upstream of the Chadbourne diversion (Figure 1-1). The removal strategy would vary depending on location and species. Rainbow trout and hybrids would be removed from all streams upstream of the Chadbourne diversion, although most removal would be concomitant with regular sampling efforts or identified “hot spots” of rainbow trout occupancy. When feasible, rainbow trout and hybrids captured near the Chadbourne diversion would receive tags and be released downstream of the diversion in order to evaluate the effectiveness of the structure as a fish barrier.

The second component of the proposed action is removal of brook trout and brown trout from the upper project area located upstream of a proposed FS fish barrier on the Shields Loop Road (Figure 2-1). Brook trout and brown trout would be removed from the stream reaches upstream of the proposed barrier on the Shields Loop Road (Figure 2-1). The CGNF plans to issue a National Environmental Protection Act (NEPA) decision for the barrier in the fall of 2014. No brown trout have been found upstream of the proposed barrier site; however, this species has been expanding its range within the upper Shields River watershed.

Concentrated brook trout removal efforts would initially take place in Lodgepole, Scofield, Dugout, and Turkey creeks (Figure 2-1). Mechanical removal could use a variety of methods; however, electrofishing and trapping of spawning adults would likely be the primary methods.

The CGNF has installed temporary, impassable culverts to prevent reinvasion of brook trout in Turkey and Scofield Creek, and is planning an additional barrier on another unnamed tributary near Dugout Creek. Total mechanical removal of brook trout is possible in small streams lacking complex habitat, although success requires considerable effort (Shepard and Nelson 2004; Shepard et al. in review). The targeted streams are noncomplex and small, which makes them suitable candidates. In the long-term, the goal would be 32 miles of connected stream supporting nonhybridized Yellowstone cutthroat trout and other native fishes.

Timing of mechanical fish removal efforts would vary among species. The brook trout and brown trout removal efforts would occur during the spring, summer, and fall of 2014 through 2024. The rainbow trout removals would occur from 2014 to 2024 with a review occurring in 2024 to evaluate the need to continue with rainbow trout removal. FWP's survey and inventory budget would pay for these actions.

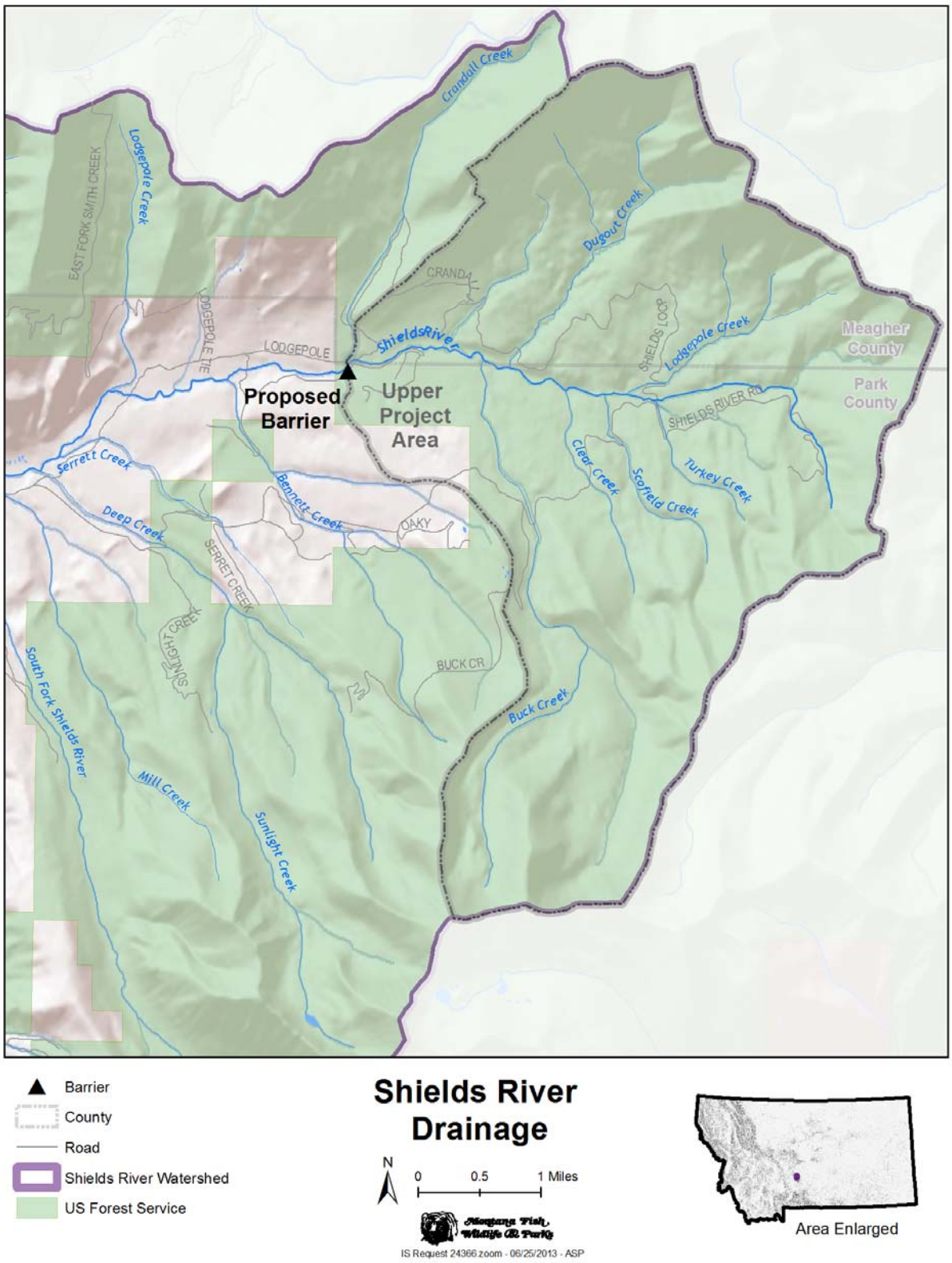

Figure 2-1. Upper project area.

2.2 Alternative B: No Action

The second alternative examined in this EA is the no action alternative. Neither brook trout nor brown trout would be removed from upstream of the barrier located in the upper project area (Figure 2-1). Rainbow trout captured above Chadbourne diversion would be released when encountered.

Under this alternative, brook trout already present would continue to invade streams upstream of the proposed barrier and likely displace Yellowstone cutthroat trout, resulting in their potential local extirpation. Although brown trout are expanding into headwaters, they have not yet been found within waters upstream of the proposed barrier, so this alternative would have no effect on their current distribution. The present threat of hybridization with rainbow trout would persist and could expand up to the proposed FS barrier. Although sampling has not found any rainbow trout in the area, reputable angler reports suggest rainbow trout are moving upstream.

2.3 Future Conservation Actions

As listed in the *Statewide Fish Management Plan* (FWP 2013), the long-term goal within the Shields River basin upstream of Chadbourne diversion is to provide a stronghold for Yellowstone cutthroat trout by eliminating the threats of nonnative fish to the Yellowstone cutthroat trout populations. FWP plans to continue to do other removal projects in the future to accomplish this goal. The proposed actions in this EA are FWP's next step in working toward securing Yellowstone cutthroat trout populations in 100% of their Shields River historic range upstream of the Chadbourne diversion barrier.

3.0 Affected Environment and Predicted Environmental Consequences

3.1 Land Use

3.1.1 Alternative A: Proposed Action

The proposed action may extend into archery season, which could displace wildlife and be a nuisance to hunters. Nonetheless, fish removal efforts upstream of the proposed barrier would be limited to the stream corridor, leaving the majority of the landscape unaffected. Moreover, FWP regularly conducts fieldwork into archery season, so this project would not present a new disturbance for archers.

3.1.2 Alternative B: No Action

The "no action" alternative would have no effect on existing land uses.

3.2 Soils

3.2.1 Alternative A: Proposed Action

Soils would be unaffected by the proposed action

3.2.2 Alternative B: No Action

The "no action" alternative would not affect soils.

3.3 Vegetation

3.3.1 Alternative A: Proposed Action

The proposed action entails an intensive effort at brook trout removal upstream of the proposed barrier. Fieldworkers would trample vegetation: however, this disturbance would be short-term, minor, and limited to the riparian corridor.

3.3.2 Alternative B: No Action

The "no action" alternative would not affect vegetation.

3.4 Wildlife

3.4.1 Alternative A: Proposed Action

The Montana Natural Heritage Program maintains data on species distribution, status, ecology, and life history strategies of animals throughout the state. A query of animals occurring within the Shields River headwaters indicate the presence of a diversity of big game species, birds, small mammals, reptiles, and amphibians typical of this type of environmental. Species of special concern with potential to occur within the project area would experience minor and short-term disturbance by the presence of field crews, as would all other species.

3.4.2 Alternative B: No Action

This alternative would not affect wildlife.

3.5 Fish and Water Resources

3.5.1 Alternative A: Proposed Action

The proposed actions would have a beneficial effect on Yellowstone cutthroat trout and decrease numbers and distribution of nonnative rainbow trout and hybrids, brook trout, and potentially brown trout. Rainbow trout and hybrids are relatively rare, so this action would not result in an appreciable effect for anglers. Reductions in brook trout and potentially brown trout in the headwaters would decrease competitive pressure and predation on Yellowstone cutthroat trout. Both nonnative trout would remain abundant and widely distributed in Montana. The Shields River main stem downstream of the project area would retain a sport fishery for brown trout unless future research demonstrates biologically-driven incompatibility for management of the two species in sympatry.

3.5.2 Alternative B: No Action

The no action alternative would have significant negative effects on Yellowstone cutthroat trout in the Shields River watershed. Brook trout would continue to invade the headwaters of the

Shields River, imperiling the Yellowstone cutthroat trout populations. Moreover, brown trout would have potential to expand, which could further increase competitive pressure and predation on Yellowstone cutthroat trout. Rainbow trout and hybrids would likely expand their distribution and interbreed with Yellowstone cutthroat trout, which would increase hybridization. Protecting the genetic status of nonhybridized Yellowstone cutthroat trout populations is the highest conservation priority under the agreement developed by the MCTSC (2007).

3.6 Aesthetics and Recreational Opportunities

3.6.1 Alternative A: Proposed Action

The proposed action would eliminate the opportunities to harvest brook trout within the project area above the proposed barrier. As brook trout were absent from many headwater tributary waters just a few years ago, this consequence would have a minor effect on recreation in the project area, as this is not a long established brook trout fishery. Moreover, brook trout are abundant in the nearby watersheds, giving anglers an opportunity to fish for and harvest brook trout. Brown trout have not yet been found within the project area, so anglers would not see changes in current fishing opportunities.

Rainbow trout and hybrids are rare within the watershed and are seldom captured in main stem sampling efforts (S.T. Opitz, FWP, personal communication). The fish captured appear to be migrants from the Yellowstone River that have gained access over the Chadbourne diversion. Suppressing rainbow trout would have minor effects on angling given their rarity. Moreover, the Chadbourne diversion project, completed in 2013, should eliminate the future ability of rainbow trout and hybrids to gain access to the project area.

Angling is an important use of the Shields River, attracting both resident and out-of-state anglers. Angling pressure is likely higher near public access points (e.g., Forest Service Campground or Fishing Access Site). Access is limited to some parts of the river given that the majority of the Shields River runs through private land. The upper project area provides a rare opportunity to fish for nonhybridized Yellowstone cutthroat trout within their native range.

Anglers would still have the opportunity to catch Yellowstone cutthroat trout, but while FWP regulations currently allow for catching this species, they must be released under a “catch-and-release” regulation. This alternative would allow for an equal or increased opportunity for anglers to catch trout, but less opportunity to keep fish. Angler catch rates for cutthroat trout are generally higher than for other trout species, so anglers may have increased opportunities to catch trout (Thurow 1976). Once secured, FWP may consider changing regulations to allow for some harvest of Yellowstone cutthroat trout upstream of the proposed barrier.

3.6.2 Alternative B: No Action

This alternative would not affect aesthetics or recreation.

3.7 Community and Taxes

3.7.1 Alternative A: Proposed Action

The proposed action would have a positive effect on the community, as conserving and protecting the Yellowstone cutthroat trout in the Shields River watershed would reduce the likelihood of petition to list the species under the Endangered Species Act (ESA). The community has been active in Yellowstone cutthroat trout conservation, primarily through the Shields Valley Watershed Group and the Park CD. The watershed group formed in the 1990s and conservation of Yellowstone cutthroat trout was the impetus for the local landowners to organize. This project is consistent with their goals for Yellowstone cutthroat trout conservation.

3.7.2 Alternative B: No Action

The no action alternative would be detrimental to the community. The Shields Valley Watershed Group and landowners have nearly 20 years of good faith effort to protect and secure Yellowstone cutthroat trout. Agencies have an obligation to follow their lead and complement their improvements. Other negative effects of the no action alternative would result in failure to maintain biodiversity, Montana's natural heritage, and angling opportunities for a popular native sport fish species.

3.8 Air Quality

3.8.1 Alternative A: Proposed Action

This alternative would not affect air quality.

3.8.2 Alternative B: No Action

This alternative would not affect air quality.

3.9 Noise and Electrical Effects

3.9.1 Alternative A: Proposed Action

This alternative would not affect noise or electrical services.

3.9.2 Alternative B: No Action

This alternative would not affect noise or electrical services.

3.10 Risk or Health Hazards

3.10.1 Alternative A: Proposed Action

This alternative would not present risks or hazards to public health.

3.10.2 Alternative B: No Action

This alternative would not present risks or hazards to public health.

3.11 Cultural Resources

3.11.1 Alternative A: Proposed Action

This alternative would not affect cultural resources because no ground disturbing activities are part of the proposed action.

3.11.2 Alternative B: No Action

This alternative would not affect cultural resources.

3.12 Cumulative Effects

3.12.1 Alternative A: Proposed Action

The cumulative effects of the proposed action and the proposed construction of a new fish barrier by the FS would be beneficial to Yellowstone cutthroat trout and the public. Brook trout and rainbow trout are incompatible with Yellowstone cutthroat trout. Losing this basin level stronghold to hybridization or displacement by brook trout, brown trout, or both would be contrary to all conservation planning efforts and would negatively affect landowners. There is potential of a lawsuit to list Yellowstone cutthroat trout under the ESA and actions such as the proposed removal of nonnative trout decrease justification for their listing as a threatened or endangered species. Conserving Yellowstone cutthroat trout also offers anglers more diversity in angling opportunities.

3.12.2 Alternative B: No Action

This alternative would have no effect on most of environmental and public categories examined; however, no action would have profound, negative consequences for Yellowstone cutthroat trout and the community. Failing to protect and secure the headwaters population of nonhybridized Yellowstone cutthroat trout would likely result in their extirpation within a few decades. Protecting nonhybridized populations of Yellowstone cutthroat trout is the highest priority in conservation planning efforts (MCTSC 2007; Endicott et al. 2012; FWP 2013). Losing these populations could increase the likelihood of litigation to include Yellowstone cutthroat trout under the Endangered Species Act. Loss of populations would be a loss of part of our natural heritage and would reduce the diversity of angling opportunities.

Installing the barrier without brook trout removal would provide little benefit. The brook trout upstream of that location would continue to invade Yellowstone cutthroat trout habitat and displace them through competitive exclusion. Immigration by rainbow and brown trout into the project area would be prevented by installation of the barrier whether or not fish removals occur upstream from the barrier. Moreover, without the brook trout removal component, barrier construction would be difficult to justify from a financial standpoint. By not reducing the threat of hybridization through removal of rainbow trout, Yellowstone cutthroat trout above

Chadbourne diversion would be at a higher risk of extirpation in the basin and of being listed under the ESA.

4.0 Need for an Environmental Impact Statement

Evaluation of the potential effects on the environmental, social, cultural, and economic resources by the proposed actions found the predicted effects to be short-term and minor. Moreover, the proposed action would be beneficial in protecting and securing a stronghold for Yellowstone cutthroat trout. The community would benefit from protecting and improving the status of this species of special concern and important sport fish. These actions complement the stewardship and commitment to Yellowstone cutthroat trout within the watershed and are consistent with the Shields Valley Watershed Group's mission.

Evaluation of the no action alternative found this alternative would have no effect on most of the environmental, social, and economic resources examined.

Neither alternative has any significant impacts on the human environment. FWP has determined an environmental impact statement is not warranted and the preparation of this environmental assessment is the appropriate level of analysis.

5.0 Public Participation

5.1 Public Involvement

Public notification of the EA release and opportunities will be through the following media:

- Legal notices posted in the *Livingston Enterprise,* The *Bozeman Daily Chronicle, and The Billings Gazette:*
- Direct mailing to adjacent landowners and interested parties;
- Public notices on the FWP webpage (*http://fwp.mt.gov*) and its Facebook page (https://www.facebook.com/#!/MontanaFWP).

Copies of this EA will be available for public review at FWP Region 3 Headquarters at 1400 South 19th Ave, Bozeman, Montana and on the FWP website (*http://fwp.mt.gov*).

5.1.1 Public Comment Period

The public comment period will extend for 30 days beginning July 16, 2014 and ending August 15, 2014. Written comments will be accepted until 5:00 pm on August 15, 2014. If requested FWP will schedule and conduct a public meeting on this proposed project.

Send comments to:

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5.1.2 Parties Responsible for Preparation of the EA

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6.0 LITERATURE CITED

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